CLAIMS

What is Claimed is:

1. A network for updating contents of an electronic device, the network comprising:

an electronic device including an update environment;

a distribution environment for transferring data to the electronic device;

a communication link for linking the electronic device and the distribution environment; and

a generation environment for generating the data.

2. The network according to claim 1 wherein the electronic device constitutes a fault tolerant system for updating the contents of the electronic device.

3. The network according to claim 1 wherein the distribution environment is a carrier network.

4. The network according to claim 1 wherein the distribution environment is a cable TV network.

5. The network according to claim 1 wherein the update environment comprises:

a download agent for receiving data from the distribution environment; and

an update agent.

6. The network according to claim 5 wherein the update agent deletes a portion of the contents in the electronic device upon successful receipt of data.

7. The network according to claim 5 wherein the update agent replaces a portion of the contents in the electronic device upon successful receipt of data.

8. The network according to claim 5 wherein the update agent adds a portion of the contents in the electronic device upon successful receipt of data.

9. The network according to claim 1 wherein the communication link is a wireless channel.

10. The network according to claim 1 wherein the communication link is a wired link.

11. The network according to claim 1 wherein the data is an update package.

12. The network according to claim 1 wherein the generation environment transfers the generated data to the distribution environment electronically.

13. The network according to claim 1 wherein the generation environment transfers the generated data to the distribution environment via removable media.

14. The network according to claim 1 wherein the contents of the electronic device is firmware.

15. The network according to claim 1 wherein the contents of the electronic device is software.

16. A method for updating contents of an electronic device in an updating network having an electronic device, a distribution environment, and a generation environment, the method comprising the steps of:
      (a) reading an original image of the contents;
      (b) reading a new image of the contents;
      (c) comparing the objects of the original image of the contents to the objects of the new image of the contents;

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(d) applying a bubble to the original image of the contents to align an object in the original image of the contents with the corresponding object in the new image of the contents;

(e) repeating (c) and (d) until all objects of the original image and the new image of the contents have been compared;

(f) saving the original image of the contents with the applied bubbles as a modified original image of the contents;

(g) generating an update package comprising the difference between the new image of the contents and the modified original image of the contents;

(h) transferring the update package to the distribution environment;

(i) downloading the update package from the distribution environment to the electronic device; and

(j) updating the original image of the contents in the electronic device.

17. The method according to claim 16 wherein a first bubble has a positive size for adding padding bytes into the original image to shift objects forward.

18. The method according to claim 16 wherein a first bubble has a negative size for removing bytes from the original image to shift objects backward.

19. The method according to claim 17 wherein a second bubble has a positive size for adding padding bytes into the original image to shift objects forward.

20. The method according to claim 17 wherein a second bubble has a negative size for removing bytes from the original image to shift objects backward.

21. The method according to claim 18 wherein a second bubble has a negative size for removing bytes from the original image to shift objects backward.

22. The method according to claim 16 wherein the contents of the electronic device is firmware.

23. The method according to claim 16 wherein the contents of the electronic device is software.

24. The method according to claim 16 wherein the aligned object is a similar portion of binary code between the original image and the new image.